

**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)  
(PCT Article 36 and Rule 70)

Applicant's Or Agent's File Reference FP2293	<b>FOR FURTHER ACTION</b>		See Form PCT/IPEA/416
International Application No. <b>PCT/SG2004/000202</b>	International Filing Date ( <i>day/month/year</i> ) 6 July 2004	Priority Date ( <i>day/month/year</i> ) 7 July 2003	
International Patent Classification (IPC) Or National Classification And IPC Int. Cl. <sup>7</sup> A61B 6/03; G06F 17/00; G06F 19/00			
Applicant <b>AGENCY FOR SCIENCE, TECHNOLOGY AND RESEARCH et al</b>			

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.	
2. This REPORT consists of a total of 3 sheets, including this cover sheet.	
3. This report is also accompanied by ANNEXES, comprising:	
a.	<input type="checkbox"/> ( <i>sent to the applicant and to the International Bureau</i> ) a total of    sheets, as follows: <div style="margin-left: 20px;"> <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).  <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. </div>
b.	<input type="checkbox"/> ( <i>sent to the International Bureau only</i> ) a total of (indicate type and number of electronic carrier(s))    , containing a sequence listing and/or table related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items:	
<input checked="" type="checkbox"/>	Box No. I      Basis of the report
<input type="checkbox"/>	Box No. II      Priority
<input type="checkbox"/>	Box No. III      Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
<input type="checkbox"/>	Box No. IV      Lack of unity of invention
<input checked="" type="checkbox"/>	Box No. V      Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
<input type="checkbox"/>	Box No. VI      Certain documents cited
<input type="checkbox"/>	Box No. VII      Certain defects in the international application
<input type="checkbox"/>	Box No. VIII      Certain observations on the international application

Date Of Submission Of The Demand 12 January 2005	Date Of Completion Of The Report 27 May 2005
Name And Mailing Address Of The IPEA/AU <b>AUSTRALIAN PATENT OFFICE</b> <b>PO BOX 200, WODEN ACT 2606, AUSTRALIA</b> E-mail address: <a href="mailto:pct@ipaaustralia.gov.au">pct@ipaaustralia.gov.au</a> Facsimile No. (02) 6285 3929	Authorized Officer <i><b>Amod Pradhan</b></i> Telephone No. (02) 6283 2510

**Box No. I**      **Basis of the report**

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1 (b))
  - ☐ publication of the international application (under Rule 12.4)
  - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
- ☒ the international application as originally filed/furnished
- ☐ the description:
- |        |                               |                    |
|--------|-------------------------------|--------------------|
| pages  | as originally filed/furnished |                    |
| pages* | received by this Authority on | with the letter of |
| pages* | received by this Authority on | with the letter of |
- ☐ the claims:
- |        |   |                    |
|--------|---|--------------------|
| pages  | as originally filed/furnished                             |                    |
| pages* | as amended (together with any statement) under Article 19 |                    |
| pages* | received by this Authority on                             | with the letter of |
| pages* | received by this Authority on                             | with the letter of |
- ☐ the drawings:
- |        |                               |                    |
|--------|-------------------------------|--------------------|
| pages  | as originally filed/furnished |                    |
| pages* | received by this Authority on | with the letter of |
| pages* | received by this Authority on | with the letter of |
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to the sequence listing (*specify*):
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages
  - ☐ the claims, Nos.
  - ☐ the drawings, sheets/figs
  - ☐ the sequence listing (*specify*):
  - ☐ any table(s) related to the sequence listing (*specify*):

\* If item 4 applies, some or all of those sheets may be marked "superseded."

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. STATEMENT

Novelty (N)	Claims 1 – 17	Yes
	Claims	No
Inventive Step (IS)	Claims 1 – 17	Yes
	Claims	No
Industrial Applicability (IA)	Claims 1 – 17	Yes
	Claims	No

2. CITATIONS AND EXPLANATIONS (RULE 70.7)

**NOVELTY (N) & INVENTIVE STEP (IS)**

**Claims 1 – 17**

The present invention relates to a method and an apparatus for extracting third ventricle information of the brain from MR images. The invention is characterised in determining a third ventricle midline and establishing the orientation of that midline. Furthermore, the invention is particularly characterised in calculating the third ventricle plane from the midlines having an orientation with the predetermined angle from the peak orientation.

The prior art documents (non-patent literature & patent documents) relate to fully automatic segmentation of brain structures using MR imaging. However, none of the prior art documents explicitly discloses or even suggests, either on their own or in any obvious combination of those documents, the precise method of extracting third ventricle information of the brain from MR images.

Consequently, the invention defined in the present claims is novel and possesses an inventive step in light of this cited prior art.

**INDUSTRIAL APPLICABILITY (IA)**

**Claims 1 – 17**

The invention defined in the present claims finds application in medical imaging, and in particular neuro-imaging and neuro-informatics, neurosurgery, neuroradiology and brain research.